Specifications for Annual Progress Reports and Final Reports Submitted to the Alaska Inventory and Monitoring Program, Alaska Region-National Park Service

INTRODUCTION

The purpose of natural resource inventories and long-term monitoring is to provide park managers with information in a timely and clearly defined fashion. Information is powerful only when it is transferred and used. Data summaries and annual reports provide an assessment of the condition of Park ecosystems. They also provide an early warning signal of ecosystem changes and allow managers and researchers to compare results. Annual and semi-annual reporting facilitates public education, outreach programs, and garners support for sustained funding of long-term monitoring. Final and interim reports are a requirement of the National Park Service and other funding sources.

Effective reporting requires a consistent format, defined time schedule, and an internal review process. The following guidelines will apply to all interim and final reports produced for the Alaska Inventory and Monitoring Program.

REPORT FORMAT

Annual progress reports and final reports should be organized to include the following sections and headings. Additional guidelines on report organization and language can be obtained by reviewing "Suggestions for the composition of technical reports in the natural-resource sciences," Rockwell (1994).

Title Page

- Project Title [use title case and bold], must include names of the I and M Network, Park(s), state(s) and subject(s) of study (see example, Appendix I)
- Author(s) [first name, middle initial(s), surname; no professional titles or academic degrees
- Avoid the use of "by"
- NPS Report Identification Code and Number [if assigned by designated NPS Key Official]
- Author's Organization Mailing Address
- Month/Year
- Contract or Agreement Number [include Supplemental Agreement Number, if applicable]
- Funding Source(s)

List of Acronyms

A list of acronyms should be included if more than 20 acronyms are used the report. All acronyms should be spelled out when initially used in the report.

Abstract

- Recommend length is the shorter of 250 words or 3% of the length of the report
- Briefly but concisely identifies the authors objectives and methods, lists the principle results and states the major conclusions
- Includes scientific names of major organisms

Executive Summary

- Reports greater than three pages should include an *Executive Summary* in addition to an abstract
- This section is often removed from the report and used by the Park Superintendent to inform legislators, the general public, park staff, regional, and Washington Office staff of the completion and results of the study. Authors should consider this audience when preparing an executive summary and assure that its contents all it to stand alone as a "condensed report."

Key Words

- Three to six words from the Project Title that describe the geographic area, common and scientific names of species, and subject of study (inventory, population dynamics, density estimation)

Introduction

- Briefly but concisely outlines the topic of the report
- States the reason for the study, inventory, or monitoring effort
- Concludes with listing of the objective(s)

Methods and Materials

- The methods section is comparable to a recipe. All materials and methods must be described in a level of detail that would allow someone else to repeat the investigation or inventory.
- States the period of the study or inventory
- Gives the location and a description of the study area or monitoring sites
- References standard procedures; if described, descriptions of standard procedures are summaries
- Lists the type and reason for statistical tests that were used and the *P*-value for level of accepted significance

Results

- Presents a systematic description of results in the same order as the description of methods
- Does not include descriptions of iterations of methods, discussions, or conclusions
- Acknowledges differences at $P \leq 0.05$ or at an otherwise stated level of significance

- Summarizes contents of each table in one to three statements, followed with the table number in parentheses (readers are not merely referred to tables to fend for themselves)

Discussion

- Focuses on the purpose of the study
- Addresses the objectives
- Presents the principles, relations, and generalizations that the results revealed
- Points out exceptions or lack of relations and defines unsettled points
- Shows how results and interpretations agree or contrast with those in previously published works
- Presents a tightly reasoned argument in crisp, clear sentences and in a logical sequence of paragraphs

[New or continuing projects may not always have tangible results to report. In this case, a section entitled **Progress** may be used in lieu of Results and Discussion heading(s).]

Plans for Coming Year

- Progress Reports must include a section that identifies work planned for the forthcoming year

- This section may also include **Recommendations,** such as suggestions from the authors for improvements in training, logistics, survey schedules, or other information useful to park support staff or investigators conducting similar field work.

Acknowledgments
Literature Cited
Appendices

Order and Construction of Paragraphs

The paragraphs under each heading or subheading must be in a recognizable order. Common types of order (Hacker 1991) are by chronology or by another scale of time, by space, or by complexity. Whereas the methods and results are best described in chronological order, the components of a discussion may best be given in order of complexity. Logic also frequently dictates the order of paragraphs-notably in introductions (which explain the reasons for a study) and in discussions (which set forth arguments).

Use paragraph headings and subheadings descriptive of the text matter to which they apply and use no more than three categories or levels of importance. First-level headings are in upper-case letters, are left-justified, and may be in bold type. Second-level headings also are left-justified but only the first letter of each word is upper-case.

Third-level headings also have the first letter of each word upper-case, but are indented five spaces, underlined or italicized and followed by two hyphens.

For example:

Most important: **FRESHWATER LAKES**
Second most important: **Lake Clark**
Third most important: ***Hardenburg Bay--***

Construction of Tables

A properly constructed and oriented table is reader friendly and eases the comprehension and the comparison of data. Each table must stand independently from the rest of the paper (CBE Style Manual Committee 1983). For this reason, the table must include the location and dates of the study, scientific names of organisms, and other pertinent information. Values must be vertically oriented because comparisons of data are easier down columns than across rows. The units of measure are usually stated in the box heading to avoid clutter in the columns.

Figures

Like tables, figures must stand independently from the rest of the paper (CBE Style Manual Committee 1983), and each figure caption must include the location and dates of study, scientific names of organisms, and other pertinent information. Whether figures are line drawings or photographs, they must be originals and of professional quality. The lettering style in a series of line drawings must be uniform. Hard copies of computer-generated figures must be accompanied by a diskette (or CD) and identification of the software.

Measurement Units--

- All measurement units must be metric.
- Include U.S. equivalent measurements parenthetically.
- Use abbreviated standard units of measure when with a numeral, whereas, units of measure are to be spelled out if no quantity is given (e.g. “10 m” or “...meters”).
- Retain only the final unit of measure in a series (e.g. 10 to 15 kg).
- Use a “/” for ratios with numbers (e.g. 10 muskoxen/ha) but use “per” for ratios without numbers (e.g. muckoxen per hectare).

Numbers--

- Numbers from one through nine are written out; numbers above nine are expressed as numerals except when first word of sentence. Ordinal numbers (e.g. second, 23rd) are treated the same.

- Physical measurements (length, width, distance, area, volume, decimals, percentages, degrees, symbols, latitude/longitude, fractions over one) and time (days, years) are always expressed as numerals.

Coordinates--

- Express coordinates as Latitude and Longitude in decimal degrees, followed by the Datum. For example: 58.345678N; 149.123456W, (NAD27)

- Figures that include map products should state the projection and Datum. For example: Alaska Albers Projection on the No. American 1927 Datum

Taxon Names--

- The NPS has adopted ITIS (Integrated Taxonomic Information System) as its standard for taxonomy and nomenclature, and all scientific names should follow that standard. See http://www.itis.usda.gov/plantproj/itis/index.html
- Use common species names of plants and animals initially followed with scientific names parenthetically; thereafter, only the common name is necessary.

Computer Software and Page Formatting

The National Park Service has adopted specific word processing, database, and geographic information systems (GIS) software as standards to promote compatibility and sharing of data among parks and promote the development of data management tools to make information more accessible. Microsoft Word is the standard for word processing and all reports and documents must be delivered in MS Word/Excel and PDF or HTML electronic format as specified. Use Arial 12 pt font and double-space draft final reports and single-space final reports. All linked images and figures must be attached with relative links to the document, for example "\photos\muskox_calf.jpg". Each numbered page should include a header that lists the report title (can be abbreviated), date, and name of the inventory and monitoring network.
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Submission Procedure and Timeline

Submit draft and final reports in digital format (compressed zip) and hardcopy. Draft reports will undergo internal review and final reports external review. Upon submission of the draft final report, the Network Inventory and Monitoring Coordinator or their designee will review the manuscript and seek additional management and scientific review comments from appropriate NPS regional and park personnel and peer members of the scientific community to ensure technical quality and accuracy of information. Review comments and recommended changes will then be returned to the author(s) for consideration and preparation of the final report.

Literature Cited

CBE Style Manual Committee. 1983. CBE Style Manual: a guide for authors, editors and publishers in the biological sciences, 5th edition. Council of Biology Editors, Inc., Bethesda, Md. 324 pg.

Hacker, D. 1991. The Bedford handbook for writers. Bedford Books of St. Martin's Press, Boston, MA 689 pg.

Rockwell, E.D. 1994. Suggestions for the composition of technical reports in the natural-resource sciences. National Biological Survey Fish and Wildlife Leaflet 1 9. 34 pg.

Appendix I. *Example Title Page*

Understanding Climate Change Effects on Wholly Mammoths (Mammuthus primigenius) at Twin Lakes, Lake Clark National Park and Preserve, SW Alaska Inventory and Monitoring Network

Iam A. Dinosaur
Alaska Natural Prehistoric Heritage Program
99 Bones Place
Twin Lakes, AK 99999

August 0002

Alaska Inventory and Monitoring Program
NPS Report no XXX

Contract or Agreement Number XXXX
Funding Source(s)